

# Practices in STD clinics in England and Wales

## A reassessment based on the numbers of cases seen

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**SUMMARY** Data previously collected on the facilities and diagnostic criteria used in clinics for sexually transmitted diseases in England and Wales were reanalysed to establish how different consultant policies affected the management of individual cases. Several discrepancies were found between conclusions based on percentages of clinics and those based on numbers of cases. Full-time facilities for contact tracing were available to more cases than previously suggested and rectal sampling in women was more widespread. Laboratory facilities were limited and cultural facilities lacking in small clinics, which thus affected only a small number of cases. Previous indications that diagnostic criteria were fairly standardised in the diagnosis of non-specific urethritis were found to be invalid. Variation in the management of individual cases was found to lead to inconsistencies in the notification of STDs to the Department of Health and Social Security.

### Introduction

In 1976 a study was carried out to collect information on the diagnostic and reporting criteria used in sexually transmitted disease (STD) clinics in England and Wales and to determine treatment and management policies.<sup>1</sup>

From the data variations in clinic facilities and diagnostic criteria were compared. Because the numbers of cases seen in the clinics varied widely, it was not possible, however, with this information alone to quantify the effects of the differences on the management of individual cases. In this paper some aspects of the findings are re-examined, using statistical returns from the Department of Health and Social Security (DHSS), to obtain a better understanding of the numbers of cases affected by different physicians' management policies. Only data on the facilities available in the clinics and the management of gonorrhoea and non-specific genital infection have been reanalysed.

### Methods

The method, response rate, and results of the original STD clinic survey have been fully reported.<sup>1-7</sup> In some instances the results may have presented a misleading picture of the management of individual cases.

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The numbers of cases seen at STD clinics are notified to the DHSS on a quarterly basis on the form SBH 60. Copies of the SBH 60 forms returned in 1976 by all clinics in England and Wales have been made available by the DHSS. The data from the initial study were reanalysed, incorporating the clinic returns, in order to quantify clinic facilities and the management of gonorrhoea and non-specific genital infection on the basis of percentages of cases rather than of clinics.

### Results

#### NUMBERS OF CLINICS AND CASES

Cases reported to the DHSS from all 189 STD clinics open in 1976 in England and Wales totalled 389 000. Seven per cent of clinics were not included in the study because the questionnaires were not completed. In 1976, 369 961 cases were seen in the 175 clinics studied (95% of all returns in 1976); of these, 60% were male and 40% female. Fifteen per cent of all cases were of gonorrhoea, 19% of non-specific urethritis (NSU) in men, and 5% of non-specific genital infection (NSGI) in women.

#### CLINIC SIZE

Clinic sizes, measured by the numbers of cases returned, ranged from the smallest clinic (open three hours a week), in which only 50 cases were seen, to the largest full-time clinic, where returns totalled 28 076 (figure). Less than 1000 cases were seen in each of 89 (51%) clinics, showing that most clinics

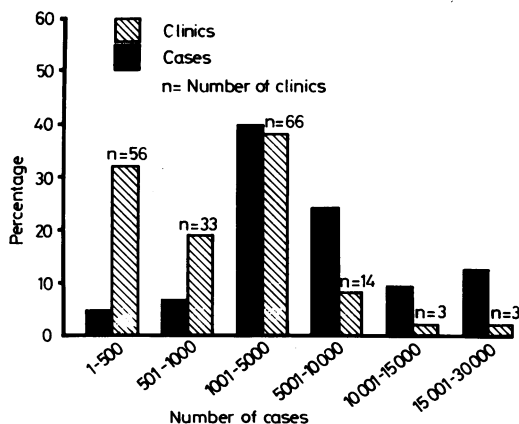


FIGURE Clinic size measured by number of cases seen in 1976.

were small ones; the total returns from these formed only 10% of all cases. In contrast, more than 25% of cases were seen in six (3%) clinics with more than 10 000 notified cases. Over 7% of all cases were returned from the largest clinic. Most cases (60%) were seen in 80 (46%) clinics with returns of between 1000 and 10 000 cases in 1976. The distribution of cases among clinics was therefore very uneven.

#### CONTACT TRACING

Contact tracing services were considered to be full-time if they were available throughout the time the clinic was open. Although full-time services were available in only 63% of clinics, 81% of cases were seen in these clinics. Part-time services were available in 13% of clinics attended by only 5% of cases. There was no service at all in 20% of clinics, but less than 11% of cases attended these clinics.

#### MICROSCOPY AND CULTURE

Facilities for microscopical examination of slides were available in all clinics. In 4% of male clinics, however, and in 5% of female clinics smear results were not available at the patient's initial visit because the slides had to be read at a central laboratory. The numbers of patients affected in this way were 1695 (less than 1%) men and 1014 (less than 1%) women. Culture facilities were not available for 0.2% of cases seen in 1% of clinics.

#### MANAGEMENT OF GONORRHOEA

Fifteen per cent of all cases notified to the DHSS from clinics in the study were of gonorrhoea, 63% of which occurred in men.

#### Sites sampled

Consultants were asked which sites they sampled routinely (table I). Policies varied depending on the features presented by the patients; they were divided into three categories:

- Men with urethral or rectal discharge or symptoms and women with vaginal discharge or symptoms suggestive of STD who were not known contacts of gonorrhoea;
- Asymptomatic patients known to be contacts of gonorrhoea; and
- Asymptomatic patients attending for a check-up.

Because of the difficulty in establishing the numbers of homosexuals seen in clinics, analysis has been confined to only heterosexual men and to women.

The one striking example where an analysis of sampling policies based on the percentage of clinics provided a poor indicator of the management of numbers of cases was the examination of rectal specimens in women. Routine rectal samples were

TABLE I Routine investigations at first clinic attendances

Sites sampled for microscopy and/or culture	Presenting features					
	Symptomatic		Asymptomatic with no contact history		Asymptomatic with contact history	
	Clinics (%)	Cases (%)	Clinics (%)	Cases (%)	Clinics (%)	Cases (%)
Male urethra	100.0	100.0	57.9	56.0	80.7	83.7
Male throat	0.0	0.0	†	†	0.5	0.05
Female urethra	98.8	98.6	97.7	98.0	98.8	98.6
Cervix	100.0	100.0	100.0	100.0	100.0	100.0
Vagina	95.9	91.5	92.5	90.2	90.7	90.1
Female rectum	*	*	*	*	20.2	41.4
Female throat	*	*	*	*	5.2	7.8

\* Not established

† Not asked

taken from symptomless female contacts of gonorrhoea in only 20% of clinics; because 41% of female cases were seen in these clinics, rectal sampling was in fact more widespread than suggested by the clinic survey.

#### *Repeat investigations*

Consultants were asked about the number of repeat investigations they would perform on patients whose initial results were negative. In general, the percentages of cases seen in each group of clinics following a particular policy reflected the clinic percentages (table II). However, there were exceptions. Although two or more repeat investigations were made on symptomless male contacts in only 53% of clinics, 63% of male cases were seen in those clinics, suggesting that investigations were repeated more often in larger clinics. More than 50% of female cases were seen in clinics where two or more investigations were repeated on patients whose initial results were negative. Seventeen per cent of female cases, however, were seen in the 13% of clinics where symptomless contacts were not routinely asked to attend for repeat investigations.

Consultants were also asked whether they used epidemiological treatment, defined in the study as "treatment given to named contacts after a history of exposure but without, or in advance of, confirmatory pathological findings." Consultants in 42% of clinics in which 46% of all male cases were seen were willing to give epidemiological treatment to male contacts of gonorrhoea. Consultants seeing 89% of all female cases said they used epidemiological treatment; this was used for most contacts in 35% of these clinics and for selected contacts in the remainder.

#### *Diagnostic returns*

Returns of cases of gonorrhoea are made to the DHSS for those patients treated on the basis of

positive laboratory findings. In 2% of clinics, however, returns for cases of gonorrhoea were made for patients treated on clinical evidence without microscopy or confirmation by culture, and in 16% of clinics returns were made for those treated epidemiologically. Thus, patients are being returned as cases of gonorrhoea without laboratory confirmation of the diagnosis. Less than 1% of all the cases returned in 1976, however, were seen in the former clinics and 8% in the latter. Therefore, although it would appear from the clinic percentages that the true number of cases of gonorrhoea might have been considerably overestimated, the actual number of individual cases given in these returns is far smaller than suggested by the clinic survey. In the remaining clinics in which epidemiological treatment was used patients treated in this way were returned as cases in the D2 category ("other conditions requiring treatment"). A further study is being undertaken to quantify the effect of these practices on the numbers of cases returned as gonorrhoea or as other conditions requiring treatment.

#### MANAGEMENT OF NSGI

##### *Diagnostic criteria for NSU*

In 1976, 32% of all male cases seen in the clinics included in the study were returned as cases of NSU. Consultants were asked what microscopical criteria they used to make a diagnosis (table III).

Seven per cent of cases of NSU were diagnosed in 8% of clinics where no attempt was made to quantify the numbers of polymorphonuclear leucocytes (PMNL) on a slide. Forty-nine per cent of cases were diagnosed in 66% of clinics which used a criterion of <5 PMNL/high power field (hpf), but a further substantial number (31%) of cases was diagnosed in 15% of clinics where ≥10 PMNL/hpf were required for a definitive diagnosis.

TABLE II *Numbers of repeat investigations on patients with initially negative results*

No of repeat investigations	Presenting features					
	Symptomatic		Asymptomatic with no contact history		Asymptomatic with contact history	
	Clinics (%)	Cases (%)	Clinics (%)	Cases (%)	Clinics (%)	Cases (%)
Men:						
0	*	*	31.0	28.2	17.5	16.3
1	*	*	38.6	37.1	29.2	20.7
2	*	*	20.5	18.6	24.6	32.1
≥3	*	*	9.9	16.1	28.7	30.9
Women:						
1	4.6	4.7	12.7	13.2	12.7	17.2
2	28.9	38.5	37.6	31.9	17.4	13.2
3	29.5	27.6	22.0	26.1	33.5	43.4
≥3	37.0	29.2	27.7	28.8	36.4	26.2

\* Not established

TABLE III *Criteria used to establish a diagnosis of NSU in men*

Criteria	Clinics		Cases of NSU		NSU as % of all male cases
	No	%	No	%	
<5 PMNL/hpf	113	66.1	34546	48.7	31.6
5-9 PMNL/hpf	17	9.9	9501	13.4	33.8
≥10 PMNL/hpf	26	15.2	21908	30.8	31.2
Other	13	7.6	4864	6.9	30.8
No microscopy	2	1.2	128	0.2	40.1
Total	171	100.0	70947	100.0	31.7

In table III diagnosed cases of NSU are also shown as a percentage of all male cases seen during 1976 in clinics in each group. Despite variations in the rigidity of the criteria required, there were no substantial differences in these percentages (all about 31%), except in two clinics where slides were not used. The cases seen in these two clinics were diagnosed on clinical findings alone and on clinical findings together with the results of a two-glass urine test.

#### *NSGI in women*

In the initial study, no consensus of opinion by consultants on the diagnostic criteria for NSGI emerged. Consultants in 40% of clinics did not even recognise NSGI as a distinct clinical entity. There were, nevertheless, 3725 returns of cases of NSGI (C4) from these clinics, representing 7% of all female returns from these clinics and 20% of all cases of NSGI in 1976.

In 43% of clinics attended by 20% of women a year, epidemiological treatment was not given to contacts of NSU. The diagnostic category used to return epidemiologically treated cases on the SBH 60 form varied in the remaining clinics. Fifty-three per cent of all women attended 45% of clinics in which epidemiologically treated cases were returned as diagnosed cases of NSGI, whereas 23% attended 28% of clinics where they were returned as cases of "other conditions requiring treatment" (D2).

#### **Discussion**

Reanalysis of the results of the clinic survey on the basis of percentage of cases has shown that many of the previous conclusions are substantiated in terms of the size of clinic and the effect that different clinic policies have on the management of individual cases. Only those areas where analysis of the clinic percentages gave a misleading representation of the services provided to individual cases will be discussed.

One service which is essential for the control of STDs is contact tracing.<sup>8</sup> No such service was

available in 20% of clinics; since less than 11% of cases were seen in these clinics, fewer cases were affected than was first suggested. As more than 80% of cases were seen in those clinics operating a full-time service, an encouraging view of contact tracing emerges.

Immediate smear results and facilities for culture were available to all but a few cases in 1976. The use of microscopy and culture facilities varied. In most instances clinic percentages provided a good indicator of the procedures used in the diagnosis of gonorrhoea in individual cases.

The best example of where clinic percentages provided an incomplete view of the effect of consultant policies on individual cases is in the use of rectal sampling in women. The number of women who attended clinics where rectal samples were routinely taken was larger than implied by the clinic percentages, suggesting that rectal sampling was carried out routinely in a small number of clinics attended by large numbers of patients. Barlow and Phillips<sup>9</sup> found that 39% of women with gonorrhoea had positive results from rectal samples. If rectal samples had not been taken, almost 5% of cases of gonorrhoea could have been missed since other sites gave negative results. Encouragement should, therefore, be given to the remaining clinics to take routine rectal samples.

The asymptomatic nature of much gonorrhoea in women, the high risk of infection in female contacts of the disease (estimated at 77% by Chipperfield and Catterall<sup>10</sup>), and the finding<sup>10</sup> that 9% of cases are missed if only one set of smears and cultures are examined highlights the need to repeat diagnostic investigations. Seventeen per cent of women were seen in 13% of clinics in which symptomless female contacts of gonorrhoea were not routinely asked to attend for repeat investigations. The necessity for repeating investigations, however, must be considered in the light of the willingness of clinicians to treat contacts epidemiologically without confirmatory pathological findings. Consultants in 86% of the clinics where repeat investigations were not routinely performed said they gave epidemiological

treatment to most contacts, and in the remaining 14% epidemiological treatment was given to selected patients. The possibility, therefore, of missing patients whose results were initially negative would have been prevented. The use of epidemiological treatment remains controversial. It has been suggested that 20-30% of uninfected contacts would be treated unnecessarily if epidemiological treatment was given, whereas the policy of awaiting positive results in a second or third set of samples results in less than 1% of cases missing treatment because of default.<sup>9</sup> Where epidemiological treatment is not used, two further sets of investigations are advised to establish or refute the diagnosis of gonorrhoea in female contacts whose initial results are negative.<sup>10</sup>

The diagnosis of gonorrhoea on the basis of confirmatory pathological findings is normally straightforward and returns made on such a basis should be fairly reliable. When infection rates for gonorrhoea are estimated, however, the figures in the annual returns to the DHSS must be considered with caution, since the true incidence is confused by returns of cases treated on a clinical or epidemiological basis. The number of cases returned as gonorrhoea without proof of infection was probably far smaller than suggested by the clinic study, and any overestimation of notified cases of gonorrhoea may well be counterbalanced by the larger number of epidemiologically treated cases returned under the category of D2. Had further investigations been carried out some of the latter could have been cases of gonorrhoea, thus leading to underestimation since prompt treatment prevented the infection being detected.

When the criterion used in clinics to diagnose NSU in men is reassessed in terms of cases, less than 50% of cases of NSU were seen in the 66% of clinics where a criterion of <5 PMNL/hpf was used. More than 30% of cases of NSU were returned from the 15% of clinics in which a far stricter criterion of  $\geq 10$  PMNL/hpf was required. The criteria used in diagnosing NSU are, therefore, not as standardised as suggested in the initial study.

The returns for NSGI include cases treated and recognised on the basis of various diagnostic criteria

as well as those treated epidemiologically with no clinical or pathological evidence of infection.

A more uniform approach to the notification of gonorrhoea and non-specific genital infection (especially in women) is needed to produce more accurate estimates of the incidence of these diseases. One possible remedy would be to introduce categories for those cases treated or diagnosed or both solely on the basis of contact history without clinical or pathological evidence of infection. This would give a clearer picture of the numbers of confirmed infections and of epidemiologically treated but unconfirmed cases by removing them from the overused D2 category.

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